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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/620,756	07/16/2003	John C. Calhoon	MSFT-2524/304593.2	8963

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EXAMINER

CHUO, TONY SHENG HSIANG

ART UNIT	PAPER NUMBER
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1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/01/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/620,756	CALHOON, JOHN C.	
	Examiner	Art Unit	
	Tony Chuo	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14, 15 and 17-28 is/are pending in the application.
- 4a) Of the above claim(s) 17-28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14 and 15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 14, 15, and 17-28 are currently pending. Claims 17-28 stand withdrawn from consideration as being drawn to a non-elected invention. The amended claim 14 does overcome the previously stated 103 rejection. However, upon further consideration, claims 14 and 15 are currently rejected under following new 103 rejection. This action is made FINAL as necessitated by the amendment.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al (US 6057051) in view of Margiott et al (US 6093500), and further in view of Ding et al (US 2002/0095247). The Uchida reference discloses a system for generating and providing fuel cell data to a processing system comprising: a hydrogen storage unit "5"; a fuel cell "2" coupled to hydrogen storage unit; voltage, current, pressure and temperature sensors for sensing fuel cell characteristics and for providing sensor signals indicative of fuel cell characteristic to a controller; a control unit "9" coupled to fuel cell for determining fuel cell parameter values in accordance with sensed fuel cell characteristics; a processor in the computer connected to the fuel cell system

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comprising a fuel indicator such as the pressure sensor in the hydrogen storage unit; a method of detecting the flow rate of the hydrogen which would be a flow meter coupled between hydrogen storage unit and fuel cell for measuring fuel consumption and providing a fuel consumption signal indicative of consumed amount of fuel to control unit; a controller that is coupled to processor via equipment connection terminal, determines a remaining amount of fuel in fuel cell in accordance with consumed amount of fuel, determines a remaining amount of fuel cell power in accordance with remaining amount of fuel, determines an electrical consumption rate being consumed by computer operating system in accordance with a sensed electrical current provided by fuel cell to processor, transmits values indicative of remaining amount of power and electrical consumption rate from fuel cell to a computer operating system residing in processing system via equipment connection terminal, and a processor that determines an amount of time for fuel cell to provide power to associated computer operating system in accordance with transmitted values indicative of remaining amount of power and electrical consumption rate. In addition, it also teaches an operating system that renders the amount of remaining time via processor (See column 5, line 54 to column 6, line 6 and column 7, lines 39-58).

However, the reference does not expressly teach a data bus that couples the controller to the processing system and transmits values indicative of remaining amount of power and electrical consumption rate from fuel cell to a computer operating system residing in the processing system. The Margiott reference discloses a data bus "80" that connects the controller "56" to the processor "62" and transmits fuel cell data from

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the controller and other devices that part of the fuel cell system to the processor (See column 6, lines 12-15 and Figure 1). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Uchida fuel cell system to include a data bus that couples the controller to the processing system and transmits values indicative of remaining amount of power and electrical consumption rate from fuel cell to a computer operating system residing in the processing system in order for the processor to be able to change the operating state of the fuel cell such as during shut down of the system when the amount of fuel in the fuel tank is low.

However, Uchida et al as modified by Margiott et al does not expressly teach a battery configured to provide power to the fuel cell and a fuel cell configured to recharge the battery. The Ding reference discloses a fuel cell system "44" and a battery "54" that is used to help start the fuel cell system by providing power to the fuel cell; and then using the power generated by the fuel cell system to recharge the battery (See paragraph [0048],[0049]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Uchida/Margiott fuel cell system to include a battery configured to provide power to the fuel cell and a fuel cell configured to recharge the battery in order to more efficiently operate the fuel cell system by utilizing a battery to assist in the start-up of the fuel cell system and then recharging the battery by using power generated by the fuel cell system.

Response to Arguments

4. Applicant's arguments with respect to claims 14 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Chuo whose telephone number is (571) 272-0717. The examiner can normally be reached on M-F, 8:30AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy Tsang-Foster can be reached on (571) 272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

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Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TC

A handwritten signature in black ink, reading "Susy Tsang-Foster". The signature is written in a cursive, flowing style.

SUSY TSANG-FOSTER
PRIMARY EXAMINER